Orissa Journal of Commerce
Vol. 42, Issue 1, Jan-March 2021
ISSN: 0974-8482

URL : www.ojcoca.org
DOI: https://doi.org/10.54063/ojc.2021.v42i01.05

Asset Quality Evaluation of Select Indian Banks: A Camel Model

Priyanka Jha[1*] and Subburaj Natarajan[2]
[1]*Research Scholar, Department of Management, Sarvepalli Radhakrishnan University, Bhopal, Madhya Pradesh.*
E-mail: pari4337@gmail.com
[2]*Associate Professor, Department of Management, Sarvepalli Radhakrishnan University, Bhopal, Madhya Pradesh.*
E-mail:subburajmba2010@gmail.com
[*]*Corresponding Author*

To cite this paper

Jha, P., & Natarajan, S. (2021). Asset Quality Evaluation of Select Indian Banks: A Camel Model. *Orissa Journal of Commerce.* 42(1), 59-77.

Keywords

CAMEL, Commercial banks, Non-performing assets, Financial performance, Asset quality.

JEL Classification

E51, F65, G21, G23, G33

Abstract: Banking Sector has a direct impact on the economic growth of a country. The performance of Bank is analysed in regular basis. The 'CAMEL' model is a reliable and precise method to use as a performance assessor in the Banking Industry and to anticipate potential and relative risk. The present study is being conducted to make a comparative analysis of the financial performance of State Bank of India (SBI) and Punjab National Bank (PNB) in Public Sector and Industrial Credit and Investment Corporation of India (ICICI) and AXIS Bank (AXIS) in Private Sector during 2011-2018 with CAMEL Model (Capital Adequacy, Assets Quality, Productivity of Management, Earnings Quality, and Liquidity). The financial performance of a bank is analyzed on the basis of CAMEL rating and it ranked accordingly. The data is collected from the respective Bank's annual reports. The overall performance of the ICICI is excellent, and the Bank is ranked (1) among four Banks. AXIS is ranked (2) followed by SBI (3) and PNB (4). However PNB is poorly performed in the overall composite ranking. The Overall financial performance of Public Sector Banks is not up to the mark as compare to Private Sector Bank and to be tracked closely to ensure their viability.

1. Introduction

The soundness of the financial sector has a direct impact on the economic growth of a country. Banks is major contributors in it. The performance of Bank is analysed by the Reserve Bank of India, in terms of Capital Adequacy, Assets Quality, Management Efficiency, Earnings Quality, and Liquidity to regulate the level of risk and financial viability of Commercial Banks. There are several methods to analyse the performance of a Bank. In Assets Quality, the value of assets is compared in the balance sheet. Bank executives are concerned with the quality of their loans, as they provide Banks with revenue. Banks' Management Efficiency represents the ability to identify, evaluate, track, and control the risk to be handled. To see consistency in the Bank's profits, earnings ratios are determined. Liquidity refers to the capacity of Banks to fulfil their short-term commitments. Those extending short-term credit to the company is particular concern to them. An adequate Liquidity condition means a situation in which an entity can obtain ample liquid funds by increasing its liabilities or rapidly turning its assets into Cash. This analysis focuses on analysing the Indian Bank's financial viability and Banking adequacy. In this study, the CAMEL Model is being used. The CAMEL Model is a ratio-based method for understanding Bank output under different criteria (Getahun, 2015). CAMEL has Sub-parameters Capital Adequacy, Assets Quality, Management Capability, Earning Efficiency and Liquidity by which Bank output is calculated. The CAMEL Model demonstrates the performance of Assets, Profitability, and Liquidity. It also provides the flexibility to choose the most suitable ratios for off-site research purposes that a regulatory authority believes are most important to its financial climate.

2. Review of Literature

Several scholars have used the CAMEL Model to study the performance of the Banking industry in emerging economies. According to the CAMEL Model, 65 Indian Banks' performance was evaluated for 2003-2004 and suggested that better quality of service, innovative products, and better bargains were advantageous because of its serious competition prevailing (Prasuna, 2004). The CAMEL existing and ten new Indian Private Banks for the five years, i.e., 2003-07, was assessed (Gupta, 2008). The study on the applicability of CAMEL standards and their subsequent influence on the quality of SBI groups concluded that the yearly screening of CAMEL enables the Commercial Bank to assess its financial condition and warns the authorities to take preventive measures it is sustainable (Misra and Aspal, 2012). The study analyses Commercial Banks' productivity in India for five years 2009-13 using the CAMEL methodology, suggesting that Commercial Banks' actual performance with CAMEL ratios is distinct (Gupta, 2014). An analysis of the performance of Indian Banks using the CAMEL Model for ten years of 2006-2007 to 2015-16 suggested that the general shareholder fund must be raised and demand liability minimized to obtain a good financial position (Subbiramani et al. 2018). A Study, attempt to assess and analyse the financial health and viability of CAMEL Methodology during 2011-2016 and noted that Liquidity of HDFC Bank, Indusland Bank, and ICICI Bank is worthy (Gupta, 2014). The study used the CAMEL Model to assess the financial performance adequacy of the State Bank Group. It noted that SBI needs to strengthen its role on Asset Quality and Capital Adequacy, SBBJ must boost its operational effectiveness, and SBP should improve the quality of its earnings (Kumar and Sharma, 2014). A CAMEL study of five Banks, namely ICICI, SBI, AXIS, HDFC, and BOI, shows that Public sector Banks, such as BOI, have performed exceptionally well on every CAMEL variable. While in the case of Private Sector Banks, underperformed by ICICI (Tatuskar, 2010). Based on the CAMEL ranking, for the ten-year data (2004-05 to 2013-14), Bank of Baroda and PNB, Commercial Banks are considered to become the most reliable Banks. The IDBI, Indian Bank, Canara Bank, and SBI are considered the average Bank (Kaur and Kaur, 2016).

We have previously fundamentally examined the performance of Public and Private sector Banks and shown that during 2011-2018, Private (ICICI and AXIS) performed better than Public (SBI and PNB) sector Banks (Jha, 2018, Jha, 2019b, Jha, 2019a, Jha and M, 2019). However, a comparative study on the financial results of these Banks lacks the CAMEL Model during 2011-2018.

3. Objective and Hypotheses of the Study

3.1. Objective

The objective of the study is:

- To study a comparative financial analysis of two Public (SBI and PNB) and Private (ICICI and AXIS) Banks with CAMEL Model.

3.2. Hypotheses

Based on the objective, the hypotheses are formulated as:

H_0: There is no significant difference in financial performance of Public and Private sector Banks with CAMEL Model.

H_1: There is a significant difference in the financial performance of Public and Private sector Banks with CAMEL Model.

4. Research Methodology

4.1. Data Collection

The secondary data limited to 7 years (2011-2018) has been collected from annual reports, available on website of the respective banks.

4.2. Tools and Techniques

CAMEL Model has been used to evaluate these data. The following ratio has been taken under parameters of CAMEL Model.

Box 1: Mapping of CAMEL Parameters

Capital Adequacy	*Assets Quality*	*Management Capability*	*Earning Efficiency*	*Liquidity Status*
Capital Adequacy ratio	Gross NPA / Total Assets ratio	Business per Employee	Dividend Pay-out ratio	Liquid Assets/ Total Assets ratio
Debt - Equity ratio	Net NPA /Total Assets ratio	Profit per Employee	Net Interest Margin	Liquid Assets/ Total Deposit ratio
Total Advances to Total Assets ratio	Gross NPA / Total Advances ratio	Total Expenditure to Total Income	Net Profit Margin	Cash to Deposit ratio.
Government Securities to Total Investment	Net NPA /Total Advances ratio	Diversification ratio	Net profit to Total Assets ratio	Current ratio

contd. box 1

Capital Adequacy	*Assets Quality*	*Management Capability*	*Earning Efficiency*	*Liquidity Status*
Shareholder's Fund/ Total Advances	Total Investment to Total Assets ratio	Total Assets Turnover ratio	Operating Profit/ Total Assets ratio	Interest Expended to Interest Earned ratio
Shareholder's Fund/Total Assets	Credit Deposit ratio	Return on Equity ratio	Interest Income/ Total Income ratio	Total Investment to Total Deposit ratio
Net Worth Ratio		Return on Assets ratio	Growth in Profit	Government Securities to Total Assets ratio

Source: Authors' Compilation for Literatures

5. Data Analysis and Interpretation

The CAMEL rating is based on a scale with a ranking, lower rating signifying a Bank that is more financially solid and less at risk. A composite rating of 1 indicates that a Bank has a strong performance and follows risk management guidelines. A Bank with a rating of 2 is financially healthy but has moderate flaws. A rating of 3 indicates that a supervisory concern is needed. On a rating of 4, a Bank with unsound practices is considered dangerous due to substantial financial concerns. Rating 5 indicates that a Bank is fundamentally unsound and has poor risk management methods.

5.1. Capital Adequacy and its Sub-parameters

Table 1 show that, ICICI got rank (1), followed by AXIS (2), SBI (3) and PNB (4) in the Capital Adequacy ratio, Debt-Equity ratio. However, PNB was also able to retain the mandatory Capital Adequacy ratio but was ranked (4). PNB Bank uses maximum debt and also has a low Capital Adequacy Ratio. PNB got rank (1) followed by SBI (2), AXIS (3) and ICICI (4) in risk-free Government Securities. PNB has invested much of its overall investment in risk-free Government Securities, suggesting that it has an excellent risk-free investment policy.

Table 1: Average of Sub-parameters of Capital Adequacy

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
		Capital Adequacy ratio		
2011-2012	13.86	12.63	18.5	13.66
2012-2013	12.92	12.72	18.74	17.00
2013-2014	12.44	11.52	17.70	16.07
2014-2015	12.00	12.21	17.00	15.09
2015-2016	13.12	11.28	16.60	15.29
2016-2017	13.11	11.66	17.40	14.95
2017-2018	12.60	9.20	18.40	16.57
Mean	12.86	11.60	17.76	15.51
Rank	3	4	1	2

contd. table 1

Debt - Equity ratio				
2011-2012	12.43	13.64	4.22	9.65
2012-2013	12.16	11.98	4.38	7.63
2013-2014	11.78	12.57	4.54	7.35
2014-2015	12.27	12.83	4.50	7.22
2015-2016	12.27	14.44	4.70	6.73
2016-2017	10.85	14.86	4.90	7.43
2017-2018	12.58	15.64	5.33	7.15
Mean	12.04	13.70	4.65	7.59
Rank	3	4	1	2
Total Advances/ Total Assets ratio				
2011-2012	64.96	64.12	53.57	59.43
2012-2013	66.76	64.47	54.07	57.84
2013-2014	67.5	63.46	56.96	60.03
2014-2015	63.48	63.07	59.98	60.85
2015-2016	64.79	61.78	60.4	64.47
2016-2017	58.06	58.24	60.15	62.03
2017-2018	56.01	56.64	35.53	63.59
Mean	63.08	61.68	54.38	61.17
Rank	1	2	4	3
Government Securities/ Total Investment				
2011-2012	82.54	81.35	54.77	62.8
2012-2013	77.54	82.83	54.28	63.76
2013-2014	78.25	78.10	54.17	61.32
2014-2015	77.45	81.94	57.56	62.28
2015-2016	77.63	80.14	70.33	71.43
2016-2017	76.25	79.09	69.66	72.39
2017-2018	80.95	76.86	69.72	67.77
Mean	78.65	80.04	61.49	65.96
Rank	2	1	4	3
Share-holder's Fund/ Total Advances				
2011-2012	9.68	9.47	23.81	13.44
2012-2013	9.46	10.58	22.98	16.81

contd. table 1

2013-2014	9.78	10.28	21.62	16.61
2014-2015	9.88	10.27	20.75	15.89
2015-2016	9.86	9.29	20.62	15.69
2016-2017	11.98	9.98	21.53	14.95
2017-2018	11.33	9.47	33.66	14.43
Mean	10.28	9.90	23.57	15.40
Rank	3	4	1	2
Share-holder's Fund/Total Assets				
2011-2012	6.29	6.07	12.75	7.99
2012-2013	6.31	6.82	12.43	9.72
2013-2014	6.6	6.52	12.31	9.97
2014-2015	6.27	6.48	12.45	9.67
2015-2016	6.39	5.74	12.45	10.12
2016-2017	6.96	5.81	12.95	9.27
2017-2018	6.34	5.36	11.96	9.18
Mean	6.45	6.11	12.47	9.42
Rank	3	4	1	2
Return on Net Worth Ratio				
2011-2012	13.94	18.60	10.70	18.60
2012-2013	14.26	15.64	12.48	15.64
2013-2014	9.20	16.26	13.40	16.27
2014-2015	10.20	16.46	13.90	16.47
2015-2016	06.89	15.46	10.84	15.47
2016-2017	05.56	06.59	9.81	06.6
2017-2018	(-2.98)	0.43	6.44	0.44
Mean	8.15	12.77	11.08	12.78
Rank	4	2	3	1

Source: Authors' Compilation

5.2. Assets Quality and its Sub-parameters

It has been observed in Sub-parameters of Assets Quality, Gross NPA /Total Assets ratio, Net NPAs to Total Assets ratio, Net NPA / Total Advances ratio AXIS is ranked (1) followed by ICICI (2), SBI (3) and PNB (4). It can be ensure that AXIS has the highest composite Asset Quality followed by ICICI, SBI and PNB. Efficiency of PNB is poor, it has maximum NPA. However, in case of Credit Deposit ratio, ICICI has performed better than AXIS, whereas SBI and PNB perform poor.

Table 2: Average of Sub-parameters of Assets Quality

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
		Gross NPA / Total Assets ratio (%)		
2011-2012	2.97	1.90	2.00	0.63
2012-2013	3.27	2.81	1.79	0.70
2013-2014	3.44	3.43	1.77	0.82
2014-2015	2.77	4.26	2.34	0.89
2015-2016	4.35	8.36	3.64	1.16
2016-2017	4.15	7.69	5.46	3.54
2017-2018	6.47	11.31	6.06	4.95
Mean	3.91	5.68	3.29	1.81
Rank	3	4	2	1
		Net NPA / Total Assets ratio (%)		
2011-2012	1.18	0.97	0.39	0.17
2012-2013	1.40	1.51	0.42	0.21
2013-2014	1.74	1.80	0.55	0.27
2014-2015	1.35	2.56	0.97	0.29
2015-2016	2.47	5.31	1.80	0.48
2016-2017	2.15	4.54	3.27	1.43
2017-2018	3.21	6.36	3.16	2.40
Mean	1.92	3.29	1.50	0.75
Rank	3	4	2	1
		Gross NPA / Total Advances ratio (%)		
2011-2012	4.45	2.93	3.62	1.06
2012-2013	4.76	4.27	3.23	1.21
2013-2014	4.97	5.24	3.03	1.367
2014-2015	4.27	6.58	3.81	1.45
2015-2016	6.52	12.91	5.85	1.78
2016-2017	6.91	12.54	8.76	5.52
2017-2018	10.91	18.42	9.90	7.50
Mean	6.11	8.98	5.45	2.84
Rank	3	4	2	1
		Net NPA / Total Advances ratio (%)		
2011-2012	1.82	1.53	0.73	0.28
2012-2013	2.10	2.34	0.77	0.36

contd. table 2

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
2013-2014	2.57	2.84	0.97	0.45
2014-2015	2.12	4.05	1.61	0.47
2015-2016	3.81	8.60	2.98	0.75
2016-2017	3.71	7.80	5.43	2.31
2017-2018	5.73	11.22	5.43	3.78
Mean	3.12	5.48	2.56	1.20
Rank	3	4	2	1
		Total Investment to Total Assets ratio (%)		
2011-2012	23.38	26.76	33.69	32.63
2012-2013	22.41	27.13	31.93	33.4
2013-2014	22.22	26.12	29.77	29.63
2014-2015	24.17	25.07	28.88	28.65
2015-2016	21.12	23.65	22.26	23.22
2016-2017	28.31	25.92	20.93	21.41
2017-2018	30.71	26.16	23.09	22.25
Mean	24.61	25.83	27.22	27.31
Rank	1	2	3	4
		Credit Deposit ratio		
2011-2012	83.12	77.39	99.30	77.13
2012-2013	86.93	78.84	99.19	77.97
2013-2014	86.76	77.38	102.04	81.89
2014-2015	82.44	75.90	107.17	87.17
2015-2016	84.57	74.55	103.28	94.64
2016-2017	76.83	67.47	94.73	90.03
2017-2018	71.49	67.53	91.34	96.92
Mean	81.73	74.15	99.57	86.53
Rank	3	4	1	2

Source: Authors' Compilation

5.3. Management Capability and its Sub-parameters

Table 3 showed that the highest contribution is made by SBI and got rank (1) followed by ICICI (2), AXIS (3) and PNB (4) in case of Profit per Employee. ICICI is ranked (1) followed by AXIS (2), SBI (3) and PNB (4) in Diversification ratio and Return on Assets ratio suggesting that the Bank earns more revenue than daily Banking operations from fee-based activities. AXIS is ranked (1), followed by ICICI (2), SBI (3) and PNB (4) in Return on Equity ratio, Earnings per Staff and Total Asset Turnover ratio (Total Income/Total Assets).

Table 3: The Average of Management Capability and its Sub-parameters

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
		Business per Employee (in crore)		
2011-2012	07.98	11.32	7.08	12.76
2012-2013	09.44	11.65	7.35	12.15
2013-2014	10.64	12.83	7.47	12.3
2014-2015	12.34	13.19	8.32	13.71
2015-2016	14.11	13.59	9.43	14.84
2016-2017	16.24	14.17	9.89	14.00
2017-2018	16.70	14.74	10.78	14.84
Mean	12.49	13.07	8.61	13.51
Rank	3	2	4	1
		Profit per Employee (in crore)		
2011-2012	0.53	0.08	0.11	0.14
2012-2013	0.65	0.08	0.14	0.15
2013-2014	0.49	0.05	0.14	0.15
2014-2015	0.60	0.05	0.16	0.17
2015-2016	0.47	-0.06	0.14	0.18
2016-2017	0.51	0.02	0.12	0.07
2017-2018	-0.24	-0.17	0.08	0.00
Mean	0.43	0.007	0.13	0.12
Rank	1	4	2	3
		Total Expenditure to Total Income (%)		
2011-2012	90.31	87.99	84.25	84.53
2012-2013	89.61	89.70	83.8	84.65
2013-2014	92.97	93.01	82.03	83.66
2014-2015	92.51	94.13	81.76	83.22
2015-2016	94.81	109.08	85.71	83.67
2016-2017	95.03	97.64	86.69	93.46
2017-2018	102.47	121.6	90.64	99.51
Mean	93.95	99.02	84.98	87.52
Rank	3	4	1	2
		Diversification ratio (%)		
2011-2012	11.87	10.33	18.28	19.77
2012-2013	11.82	9.14	17.24	19.42

contd. table 3

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
2013-2014	11.98	9.57	19.1	19.46
2014-2015	12.9	11.28	19.87	19.08
2015-2016	14.68	11.23	22.51	18.61
2016-2017	16.81	15.92	26.48	20.79
2017-2018	16.83	15.61	24.07	19.33
Mean	13.84	11.86	21.07	19.49
Rank	3	4	1	2
Total Income/ Total Assets (Total Assets Turnover ratio) (%)				
2011-2012	9.05	08.88	8.39	9.6
2012-2013	8.66	09.63	9.02	9.91
2013-2014	8.64	08.68	9.18	9.93
2014-2015	8.54	08.65	9.48	9.50
2015-2016	8.49	08.00	9.44	9.59
2016-2017	7.79	07.80	9.54	9.35
2017-2018	7.67	07.42	8.23	8.21
Mean	8.40	8.43	9.04	9.44
Rank	4	3	2	1
Return on Equity ratio (%)				
2011-2012	14.36	18.52	11.10	21.22
2012-2013	15.94	15.19	12.90	20.51
2013-2014	10.49	9.69	13.70	18.23
2014-2015	11.17	8.12	14.30	18.57
2015-2016	7.74	(-11.20)	11.30	17.49
2016-2017	7.25	3.52	10.30	7.22
2017-2018	(-3.78)	(-32.85)	6.60	0.53
Mean	9.02	1.57	11.45	14.82
Rank	3	4	2	1
Return on Assets ratio (%)				
2011-2012	0.88	1.19	1.5	1.68
2012-2013	0.97	1.00	1.66	1.70
2013-2014	0.65	0.64	1.76	1.78
2014-2015	0.68	0.53	1.86	1.83
2015-2016	0.46	(-0.61)	1.49	1.72
2016-2017	0.41	0.19	1.35	0.65
2017-2018	(-0.19)	(-1.6)	0.87	0.04
Mean	0.55	0.19	1.49	1.34
Rank	3	4	1	2

Source: Authors' Compilation

5.4. Earning Capability and its Sub-parameters

Table 4 shows that ICICI got rank (1), followed by SBI (2), AXIS (3) and PNB (4) in the Dividend Pay-out ratio, Net Profit/Total Income ratio, Net Profit to Total Assets ratio and Growth in Profit. AXIS is ranked (1st), led by ICICI (2nd) and SBI (3rd) and PNB (4th) in Net Interest Margin.

Table 4: Average of Earning Capability and its Sub-parameters

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
		Dividend Payout ratio		
2011-2012	18.98	14.28	32.35	15.54
2012-2013	19.75	19.35	30.46	15.04
2013-2014	19.13	10.65	29.77	15.09
2014-2015	19.94	19.52	28.47	14.75
2015-2016	20.03	0.00	32.83	14.46
2016-2017	19.35	0.00	16.33	32.47
2017-2018	Nil	Nil	14.34	Nil
Mean	16.74	9.11	26.36	15.33
Rank	2	4	1	3
		Net Interest Margin		
2011-2012	3.24	2.92	2.20	2.80
2012-2013	2.83	3.10	2.58	2.84
2013-2014	2.74	2.93	2.77	3.12
2014-2015	2.69	2.74	2.95	3.08
2015-2016	2.52	2.29	2.95	3.20
2016-2017	2.28	2.08	2.82	3.01
2017-2018	2.17	1.95	2.62	2.70
Mean	2.63	2.57	2.69	2.96
Rank	3	4	2	1
		Net Profit/Total Income ratio		
2011-2012	9.68	12.00	15.75	15.47
2012-2013	10.39	10.30	17.19	15.35
2013-2014	7.03	07.00	17.97	16.34
2014-2015	7.48	05.86	18.24	16.78
2015-2016	5.18	(-07.44)	14.29	16.33
2016-2017	4.96	02.35	13.31	6.54
2017-2018	(-2.46)	(-21.59)	9.36	0.49
Mean	6.03	1.21	15.15	12.47
Rank	3	4	1	2

		Net profit to Total Assets ratio		
2011-2012	0.88	1.07	1.36	1.49
2012-2013	0.9	0.99	1.55	1.52
2013-2014	0.61	0.61	1.65	1.62
2014-2015	0.64	0.51	1.73	1.59
2015-2016	0.44	(-0.60)	1.35	1.57
2016-2017	0.39	0.18	1.27	0.61
2017-2018	(-0.19)	(-1.60)	0.77	0.04
Mean	0.52	0.16	1.38	1.20
Rank	3	4	1	2
		Operating Profit / Total Assets ratio (%)		
2011-2012	2.36	2.32	2.19	2.60
2012-2013	1.98	2.28	2.46	2.73
2013-2014	1.79	2.07	2.79	2.99
2014-2015	1.9	1.98	3.05	2.90
2015-2016	1.91	1.83	3.31	3.06
2016-2017	1.88	2.02	3.43	2.92
2017-2018	1.72	1.34	2.81	2.26
Mean	1.93	1.97	2.86	2.78
Rank	4	3	1	2
		Interest Income/Total Income ratio		
2011-2012	88.13	89.67	81.72	80.23
2012-2013	88.18	90.86	82.76	80.58
2013-2014	88.02	90.43	80.90	80.54
2014-2015	87.10	88.72	80.13	80.92
2015-2016	85.32	88.77	77.49	81.39
2016-2017	83.19	84.08	73.52	79.21
2017-2018	83.18	84.39	75.93	80.67
Mean	86.16	88.13	78.92	80.50
Rank	2	1	4	3
		Growth in Profit		
2011-2012	Nil	Nil	Nil	Nil
2012-2013	20.48	(-02.80)	28.77	22.09
2013-2014	(-22.78)	(-29.60)	17.84	20.06
2014-2015	20.30	(-08.40)	13.91	18.33
2015-2016	(-24.05)	(-229.83)	(-12.97)	11.78
2016-2017	05.39	133.31	0.77	(-55.27)
2017-2018	(-162.44)	(-1027.64)	(-30.85)	(-92.5)
Mean	(-23.30)	(-164.02)	2.50	(-10.79)
Rank	3	4	1	2

Source: Authors' Compilation

5.5. Liquidity Capability and its Sub-parameters

Table 5, shows, in the Sub-parameters of Liquidity Capability of all 4 Banks get different rank. PNB is ranked (1), followed by ICICI (2), SBI (3) and AXIS (4) in Liquid Assets/ Total Assets ratio. *In Liquid Assets/ Total Deposit ratio (%)* ICICI is ranked (1), followed by PNB (2), AXIS (3) and SBI (4). In Current ratio, PNB is ranked (1), followed by AXIS (2), ICICI (3) and SBI perform weak and got rank (4). *Government Securities to Total Assets ratio* calculates the Bank's Total Assets that are invested in Public securities. The higher ratio signifies the Bank's sound liquidity. In Government Securities, PNB is ranked (1), followed by SBI (2), AXIS (3) and ICICI (4). PNB is invested more in it, which are the most liquid and secure assets but affect the PNB earning efficiency. Like other marketing investment instruments, Government Securities do not offer high returns. In Government Securities, ICICI has spent less.

Table 5: The Average of Liquidity Capability and its Sub-parameters

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
		Liquid Assets/ Total Assets ratio (%)		
2011-2012	7.28	6.29	7.65	4.88
2012-2013	7.33	5.67	7.72	6.00
2013-2014	7.40	8.22	6.98	7.37
2014-2015	8.54	9.27	6.55	7.81
2015-2016	7.41	11.03	8.31	6.34
2016-2017	6.36	12.26	9.81	8.36
2017-2018	5.55	12.47	9.57	6.29
Mean	7.12	9.30	8.08	6.72
Rank	3	1	2	4
		Liquid Assets/ Total Deposit ratio (%)		
2011-2012	9.31	7.59	14.18	6.33
2012-2013	9.55	6.93	14.15	8.09
2013-2014	9.51	10.02	12.51	10.05
2014-2015	11.09	11.16	11.70	11.20
2015-2016	9.68	13.31	14.21	9.31
2016-2017	8.41	14.2	15.45	12.12
2017-2018	7.09	14.86	15.00	9.58
Mean	9.23	11.15	13.88	9.52
Rank	4	2	1	3
		Cash to Deposit ratio		
2011-2012	5.18	4.87	8.00	4.86
2012-2013	5.47	4.57	6.51	5.86

contd. table 5

Year	*SBI*	*PNB*	*ICICI*	*AXIS*
2013-2014	6.09	4.93	6.57	6.07
2014-2015	7.34	4.83	7.10	6.15
2015-2016	7.49	4.79	6.43	6.25
2016-2017	6.26	4.05	6.47	7.45
2017-2018	5.56	4.48	5.90	7.82
Mean	6.19	4.64	6.71	6.35
Rank	3	4	1	2
		Current ratio		
2011-2012	12.58	24.58	17.61	22.00
2012-2013	12.66	23.01	11.23	20.62
2013-2014	14.37	26.72	11.88	19.38
2014-2015	11.21	26.07	14.34	21.72
2015-2016	11.08	30.99	15.92	26.47
2016-2017	12.22	32.93	17.59	17.83
2017-2018	14.08	25.79	22.13	20.33
Mean	12.60	27.15	15.81	21.19
Rank	4	1	3	2
		Interest Expended to Interest Earned ratio (%)		
2011-2012	59.35	63.22	68.00	63.55
2012-2013	62.95	64.54	65.40	64.44
2013-2014	63.85	62.64	62.70	61.00
2014-2015	63.38	64.25	61.21	59.91
2015-2016	65.24	67.71	56.76	58.93
2016-2017	64.75	68.29	59.86	59.38
2017-2018	66.05	68.90	58.11	59.33
Mean	63.65	65.65	61.72	60.93
Rank	3	4	2	1
		Total Investment to Total Deposit ratio		
2011-2012	29.91	32.31	62.45	42.34
2012-2013	29.18	33.17	58.57	45.02
2013-2014	28.56	31.85	53.33	40.42
2014-2015	31.39	30.17	51.6	41.04
2015-2016	27.57	28.54	38.06	34.08
2016-2017	27.46	30.03	32.96	31.08
2017-2018	39.20	31.19	36.19	33.92
Mean	30.46	31.03	47.59	38.27
Rank	4	3	1	2

Government Securities to Total Assets ratio				
2011-2012	19.30	21.77	18.45	20.49
2012-2013	17.37	22.47	17.33	21.29
2013-2014	17.39	20.40	16.13	18.17
2014-2015	18.72	20.54	16.62	17.84
2015-2016	16.40	18.95	15.65	16.59
2016-2017	21.58	20.50	14.58	15.50
2017-2018	24.86	20.10	16.10	15.08
Mean	19.37	20.67	16.40	17.85
Rank	2	1	4	3

Source: Authors' Compilation

5.6. Composite Ranking of CAMEL's Parameters

Based on the study (Table 6), ICICI and AXIS earned the same rank however SBI and PNB got lower rank (3) and (4) respectively in Composite Capital Adequacy (1.5). It can be ensure that AXIS (1) has the highest Composite Asset Quality and Management Efficiency followed by ICICI (2), SBI (3) and PNB (4). Efficiency of PNB is poorer, it has maximum NPA. However, in case of Credit Deposit ratio, ICICI has performed better than AXIS, whereas SBI and PNB perform poor. ICICI and AXIS is also a strong performer in Composite Earning Capability than SBI and PNB. PNB is ranked (1), followed by ICICI (2) and AXIS (3). SBI (4) in Composite Liquidity Capability.

Table 6: The Composite Ranking of CAMEL's Parameters

Parameters	*SBI*	*PNB*	*ICICI*	*AXIS*
	Capital Adequacy			
Capital Adequacy ratio	3	4	1	2
Debt - Equity ratio	3	4	1	2
Total Advances to Total Assets ratio	1	2	4	3
Government Securities to Total Investment	2	1	4	3
Share-Holder's Fund/ Total advances	3	4	1	2
Share-holder's Fund/Total Assets	3	4	1	2
Net Worth Ratio	4	2	3	1
Composite	2.71	3	2.14	2.14
Rank	3	4	1.5	1.5
	Assets Quality			
Gross NPA /Total Assets ratio (%)	3	4	2	1
Net NPA /Total Assets ratio (%)	3	4	2	1
Gross NPA / Total Advances ratio (%)	3	4	2	1

Parameters	*SBI*	*PNB*	*ICICI*	*AXIS*
Net NPA /Total Advances ratio (%)	3	4	2	1
Total Investment to Total Assets Ratio (%)	1	2	3	4
Credit Deposit ratio	3	4	1	2
Composite	2.67	3.67	2	1.67
Rank	3	4	2	1
Management Capability				
Business per Employee (in crore)	3	2	4	1
Profit per Employee	1	4	2	3
Total Assets Turnover ratio (%) (Total Income/ Total Assets)	4	3	2	1
Diversification ratio (%)	3	4	1	2
Return on Equity ratio (%)	3	4	2	1
Return on Assets ratio (%)	3	4	1	2
Composite	2.86	3.57	1.86	1.71
Rank	3	4	2	1
Earning Capability				
Dividend Pay-out ratio	2	4	1	3
Net Interest Margin	3	4	2	1
Net Profit/Total Income ratio or Net Profit Margin	3	4	1	2
Net profit to Total Assets ratio	3	4	1	2
Operating Profit / Total Assets ratio (%)	4	3	1	2
Interest income/Total Income ratio	2	1	4	3
Growth in Profit	3	4	1	2
Composite	2.86	3.43	1.57	2.14
Rank	3	4	1	2
Liquidity Capability				
Liquid Assets/ Total Assets ratio	3	1	2	4
Liquid Assets/ Total Deposit ratio	4	2	1	3
Cash to Deposit ratio	3	4	1	2
Current ratio	4	1	3	2
Interest Expended to Interest Earned ratio (%)	3	4	2	1
Total Investment to Total Deposit ratio	4	3	1	2
Government Securities to Total Assets ratio	2	1	4	3
Composite	3.29	2.29	2	2.43
Rank	4	2	1	3

Source: Authors' Compilation

5.7. Overall Performance of Banks

Based on the study (Table 7), the overall performance of the ICICI is excellent, and ranked (1) among four Banks followed by AXIS (2), SBI (3) and PNB (4). PNB performed poorly in the overall ranking. However, PNB was also able to retain the mandatory Capital Adequacy ratio but acquired lower ranked. The weak performance on Capital Adequacy ratio, Debt-Equity ratio, Shareholder's fund to Total Advances, Shareholder's Fund to Total Assets are reasons behind PNB's lowest rating. ICICI and AXIS perform better on the above financial parameters, suggesting that the Bank focuses on utilising revenue-generating tools to account for government standards. Nevertheless, SBI and PNB performed better in the remaining two parameters, i.e., Government Securities to Total Investment and Total advance to Total Assets ratio. It advocated that the Public Bank focuses primarily on the protection of the funds of depositors. PNB has invested more in Government Securities, which are the most liquid and secure assets but affect the PNB Earning Efficiency. Like other marketing investment instruments, Government Securities do not offer high returns. In Government Securities, ICICI has spent minimum.

Table 7: Composite Ranking (Overall Performance) of Banks

	SBI	*PNB*	*ICICI*	*AXIS*
C	2.71	3	2.14	2.14
A	2.67	3.67	2	1.67
M	2.86	3.57	1.86	1.71
E	2.86	3.43	1.57	2.14
L	3.29	2.29	2	2.43
Mean	2.88	3.19	1.91	2.02
Rank	3	4	1	2

Source: Authors' Compilation

6. Conclusion

The CAMEL Model is an important technique for assessing a bank's financial soundness and recommending essential solutions for the remedy of a Bank's deficiencies. An attempt has been made to evaluate the financial soundness of select Indian Banks in this study. Two large Public (SBI and PNB) and Private (ICICI and AXIS) Sector Banks are included in the sample of selected Banks. The CAMEL Model was used to rank the financial institution, which included crucial factors such as Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality, and Liquidity.

The findings of this study showed that during 2011-2018, there is a significant difference in the performance of Public (SBI and PNB) and Private (ICICI and AXIS) sector Banks. As a result, the null hypothesis is rejected and the alternative hypothesis is accepted. Private Banks are better defenders than Public Banks, which have attained the least position in all parameter of the CAMEL Model. According to the CAMEL rating, ICICI overall performance is excellent, and gets a high CAMEL rating (ranked 1). In the CAMEL Model, performance of AXIS is also outstanding (ranked 2). On the contrary, the financial performance of Public Banks is not up to the mark, and must be continuously monitored to ensure their viability. Furthermore, the Banks with the lowest ranking must improve their performance in order to meet the acceptable requirements.

7. Implications of the Study

This study highlights the efficacy of four major Indian Banks in terms of competitiveness. These findings may be considerable use for Banking Institutions, policy makers and academic researchers. This study will assist decision-makers to pay more attention to the key Banking activities that will allow the Bank perform better and can increased their rank while compared to other Banks. From an academic point of view, in analysing the financial performance of leading Commercial Banks, this study offers a whole new viewpoint. It can be determined that the current study will assist the decision-makers of Indian Public and Private sector Banks and other groups of Indian Banking sector to concentrate on financial performance and thus increase its efficiency and profitability.

Acknowledgments

We would like to express our gratitude to the Department of Management, Sarvepalli Radhakrishnan University, Bhopal, India, for offering this research opportunity.

References

Altan, M., Yusufazari, H. and Bedük, A (2014). Performance analysis of Banks in Turkey using CAMEL Model, *Proceedings of International Academic Conferences, 2014*. International Institute of Social and Economic Sciences.

Getahun, M. (2015). Analyzing financial performance of Commercial Banks in Ethiopia: CAMEL Model", *Unpublished Master s Thesis. Addis Ababa University*.

Gupta, R. (2008). "A CAMEL Model Analysis of Private Sector Banks in India", *Journal of Gyan Management,* 2(1), 3-8.

Gupta, R. (2014). An analysis of Indian Public sector Banks using CAMEL Model, *IOSR Journal of Business and Management,* 16(1), 94-102.

Jha, P. (2018). Analyzing Financial Performance (2011-2018) of Public Sector Banks (PNB) and Private Sector Banks (ICICI) in India, *ICTACT Journal on Management Studies,* 4(3), 793-799.

Jha, P. (2019a). Analysis of Non-Performing Assets (NPAs) Among SBI Bank and ICICI Bank for Operating 2011-2018, *Asian Journal of Research in Banking and Finance,* 9(1), 1-13.

Jha, P. (2019b). A Comparative Statistical Approach towards Analysis of Non-performing assets (NPAs) among PNB and ICICI Bank operating 2011-2018. *Research Journal of Management,* 8(2), 16-27.

Jha, P. and Bhargav M. (2019). Assessing the Financial Status of SBI and ICICI Bank Operative 2011-2018, *Apeejay-Journal of Management Sciences and Technology,* 6(2), 8-19.

Jha P, Subburaj N. (2020). Fundamental and Technical Analysis of Indian Banks for operating 2011-2018. *Shodh Sanchar Bulletein*, 10(40):23-27.

Kaur, H. V. (2010). Analysis of Banks in India-A CAMEL Model. *Global Business Review,* 11(2), 257-280.

Kaur, J. and KAUR, H. V. (2016). CAMEL analysis of selected Public sector Banks. *13th National Conference on Management, Information Technology and Engineering* (GJ-NatConMITE 2016).

Kumar, S. & SHARMA, R. (2014). Performance analysis of top Indian Banks through CAMEL Model, *International Journal of Advanced Research in Management and Social Sciences,* 3(7)**,** 81-92.

Misra, D. S. and Aspal, P. (2012). A CAMEL Model analysis of state Bank group, *Proceedings of 19th International Business Research Conference.*

Prasuna, D. G. (2004). Performance Snapshot 2003-04. *Chartered Financial Analyst,* 10(11)**,** 6-13.

Said, M. & Saucier, P. (2003).Liquidity, solvency, and efficiency: An empirical analysis of the Japanese Banks' distress, *Journal of Oxford,* 5(3)**,** 354-358.

Sarker, A. (2005). CAMEL rating system in the context of Islamic Banking: A proposed 'S'for Shariah framework, *Journal of Islamic Economics and Finance,* 1(1)**,** 78-84.

Subbiramani, M, Ranjith, G. and Balagurusamy, A. (2018). A CAMEL analysis on performance of Public and Private sector Banks (with special reference to Canara Bank and HDFC Bank), *International Journal of Computational Research and Development*, 3(1), 44-49

Tatuskar, S. (2010). A Study of Financial Performance of Select Indian Scheduled Commercial Banks Using CAMEL Methodology for 2006-2010, *International Journal of Research in Commerce and Management,* 1(1)**,** 105-121.

Tiwari, C. and Sontakke, R. (2013). Trend Analysis of Non Performing Asset in Scheduled Commercial Banks in India, *International Journal of Application or Innovation in Engineering & Management*.

Triner, G. D. (2000). *Banking and economic development: Brazil, 1889-1930*, Palgrave New York.

Tripathi, D., Meghani, K. and Mahajan, S. (2014). Financial performance of AXIS Bank and Kotak Mahindra Bank in the post reform era: analysis on CAMEL Model, *Ecoomics and Applied Management Research,* 1(2)**,** 2349-5677.